MIAMI-SOUTH FLORIDA
National Weather Service
Forecast Office
http://www.weather.gov/miami

DRIER AND HOTTER THAN NORMAL JUNE OVER MOST OF SOUTH FLORIDA

DRIEST JUNE ON RECORD AT MIAMI BEACH

The dry pattern which has gripped south Florida since late 2010 continued in June. The slow start to the rainy season set the stage for another drier than normal month over most areas. Many places did not see any measurable rain during the first 10 days of the month, with the vast majority of the area's June rainfall occurring in the last 2 weeks of the month. The large-scale weather pattern during the first half of June was characterized by strong high pressure in the mid and upper levels of the atmosphere over the central United States (Figure 1). The clockwise flow around the high produced northeast winds aloft over Florida, which is a relatively dry wind flow this time of year. During the second half of June, the pattern shifted to low pressure over the central U.S., leading to lighter winds aloft over Florida and a more unstable atmosphere (Figure 2).

Despite the shift in the weather pattern, no significant large-scale weather events affected South Florida in June. In the absence of large-scale features which can provide widespread heavy rainfall to the area, rainfall patterns were largely determined by sea breeze convergence. With easterly flow dominating, most of the rainfall concentrates over the interior sections of the peninsula. As a result, inland areas of south Florida received an average of 6 to 8 inches of rain which is near to slightly below the June average (Figure 3). Some areas south and west of Lake Okeechobee received 9 to 11 inches of rain, which is above average for the month. On the other hand, eastern and coastal sections of the Miami/Fort Lauderdale/West Palm Beach metro areas only received an average of about 2 to 4 inches which is significantly below normal. **In fact, Miami Beach recorded its driest June on record with only 1.15 inches of rain through 8 AM on June 30th**, breaking the previous record of 1.45 inches set back in 1927. Gulf coastal sections of southwest Florida observed similarly low rainfall values as the west coast sea breeze pushed inland on most days.

Because of the lack of large scale rainfall, precipitation amounts varied widely within the same general area. A clear example of this is Miami International Airport which received over 12 inches of rain, mostly from four heavy downpours of greater than 2 inches each. Only 9 miles east at the coast, Miami Beach received barely over 1 inch.

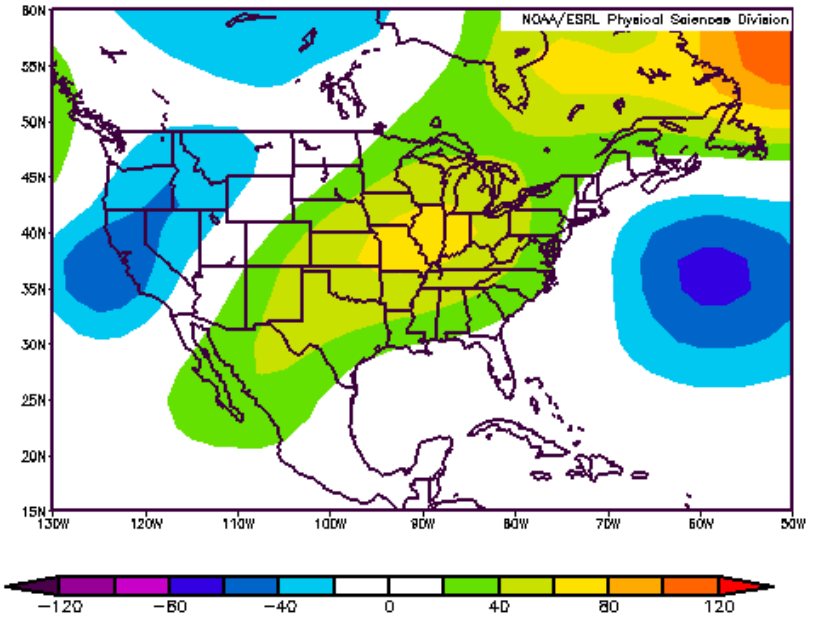
Below are June 2011 rainfall totals at select sites across South Florida. Rainfall values are listed in inches.

JUNE 2011 RAINFALL TOTALS/DEPARTURE FROM NORMAL IN INCHES AND RANK

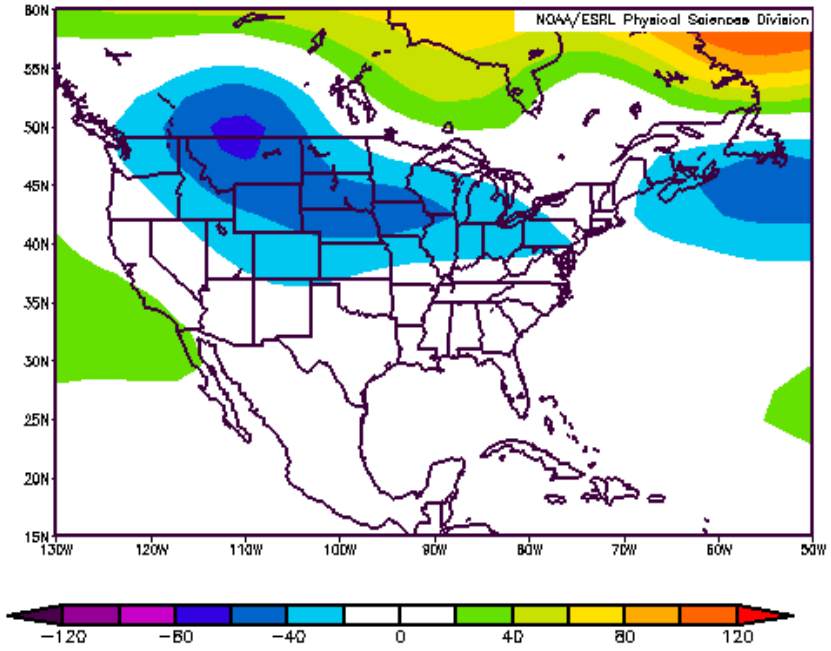
Station – ***Beginning of Records***	**June 2011**	**Dep. fm Normal**	**Rank**
FORT LAUDERDALE – *1912*	2.70	-7.31	12TH DRIEST
MIAMI – *1895*	12.22	+3.68	17TH WETTEST
NAPLES – *1942*	2.42	-5.76	5TH DRIEST
WEST PALM BEACH – *1888*	3.19	-4.39	20TH DRIEST
MIAMI BEACH - *1927*	1.15	-5.75	DRIEST
MOORE HAVEN - *1918*	7.20	+0.22	
MUSE	8.01		
BRIGHTON RESERVATION	6.59		
HOMESTEAD GENERAL APT	6.55		
THE REDLAND - *1958*	6.37	-5.00	14TH DRIEST
NWS MIAMI – FIU MAIN	6.17		
GOLDEN GATE	4.95		
IMMOKALEE	4.88		
JUNO BEACH	4.62		
NORTH MIAMI BEACH	3.94		
OASIS RANGER STATION	3.15		
PALM BEACH GARDENS	3.01		
MARCO ISLAND	2.51		
CAPE FLORIDA	2.31		
CANAL POINT - *1941*	2.08	-5.56	2ND DRIEST
HOLLYWOOD - *1963*	1.97	-7.78	

NORMAL VALUES ARE THE 1971-2000 CLIMATIC AVERAGES, BUT ARE NOT AVAILABLE FOR ALL OBSERVING LOCATIONS.

NOTE: JUNE RAINFALL THROUGH 8 AM JUNE 30 FOR ALL STATIONS, EXCEPT FOR MIAMI, FORT LAUDERDALE, NAPLES, WEST PALM BEACH AND IMMOKALEE WHICH INCLUDES RAIN THROUGH MIDNIGHT JUNE 30.



June 1 – June 15



June 16 – June 28

FIGURES 1 AND 2: 500 MB (MID-ATMOSPHERIC) ANOMALIES FROM JUNE 1 TO JUNE 15 ON TOP AND JUNE 16 TO JUNE 28 ON THE BOTTOM. HIGHER THAN NORMAL PRESSURE (GREEN/YELLOW AREAS) DOMINATED OVER THE CENTRAL AND SOUTHERN U.S., IN THE FIRST HALF OF JUNE, ASSISTING WITH WARMER TEMPERATURES AND LOWER RAINFALL AMOUNTS THROUGHOUT SOUTH FLORIDA. DURING THE SECOND HALF OF JUNE, LOWER THAN NORMAL PRESSURES (BLUE AREAS) OVER THE CENTRAL U.S. LEAD TO LIGHTER WINDS AND HIGHER INSTABILITY OVER FLORIDA.

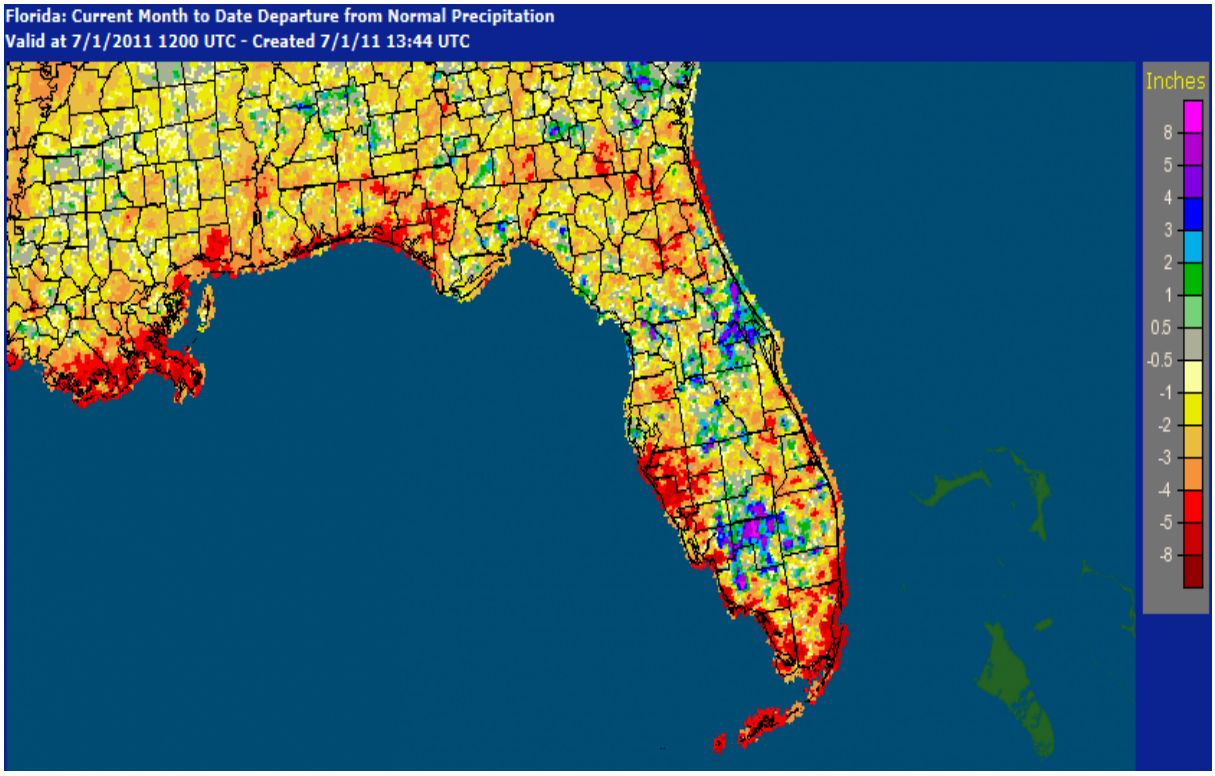


FIGURE 3: JUNE PRECIPITATION DEPARTURE FROM NORMAL IN INCHES. YELLOW, ORANGE AND RED AREAS DEPICT BELOW NORMAL PRECIPITATION ALONG BOTH THE ATLANTIC AND GULF COASTS, WHILE GREEN, BLUE AND MAGENTA COLORS DEPICT ABOVE NORMAL PRECIPITATION OVER INLAND SECTIONS OF SOUTH FLORIDA.

DROUGHT AND FIRE WEATHER IMPACTS

The delayed start to the rainy season and the subsequent low rainfall values over many areas led to the continuation of severe to exceptional drought conditions. The increased rains during the last week of June began to provide some relief to the drought, especially over interior sections of south Florida. Eastern sections of the southeast Florida metro area have also begun to see some relief, but not enough as of the present time to improve the drought status which remained at exceptional (D4) as of June 28th. Recent rains have also increased the soil moisture over much of the area, resulting in improved fire danger index values.

TEMPERATURES

The relative lack of rainfall contributed to more sunshine, less cloud cover and thus warmer than normal temperatures in June. Although it wasn't as hot as the record-setting June of last year, each of the 4 main climate sites recorded top 10 hottest Junes on record.

- **West Palm Beach** recorded an average June temperature of 84.2 degrees. This is 3.0 degrees above normal and is the 3rd hottest June on record. A total of 2 daily record highs were established (June 13 and 14) and the highest temperature recorded was 98 degrees on June 14th.

- **Miami** recorded an average June temperature of 84.1 degrees. This is 1.7 degrees above normal and is the 3rd hottest June on record. A total of 4 daily record highs were established (June 14, 15, 16 and 19) and the highest temperature recorded was 97 degrees on June 14th.

- **Naples** recorded an average June temperature of 82.9 degrees. This is 2.1 degrees above normal and is the 5th hottest June on record. A total of 6 daily record highs were established (June 2, 3, 4, 8, 10 and 16) and the highest temperature recorded was 97 degrees on June 4th and 8th.

- **Fort Lauderdale** recorded an average June temperature of 83.2 degrees. This is 2.0 degrees above normal and is the 7th hottest June on record. The highest temperature recorded was 94 degrees on June 15th and 16th.

OUTLOOK AND HAZARDS

A general continuation of the wetter late June pattern is likely to persist into the first 2 weeks of July, which increases the likelihood of above normal July rainfall across south Florida. This would undoubtedly improve drought conditions. However, the large rainfall deficits will take time to decrease...therefore it will be a few more weeks even under wetter than normal conditions until water levels recover and drought conditions alleviate significantly.

Looking into the second half of the rainy season (August-October), the Climate Prediction Center's precipitation outlook calls for an increased likelihood of above normal precipitation. It must be emphasized that long-range outlooks are **subject to large errors**. The temperature outlook through October generally calls for hotter than normal temperatures to continue.

July is lightning and rip current season in south Florida. Most lightning deaths and injuries in south Florida have occurred in July than in any other month. Please remember to follow the simple rule: ***When thunder roars, go indoors***. Rip currents are also a threat along our beaches in July. Always swim near a lifeguard and heed the advice of Ocean Rescue personnel. Pay attention to flags posted at lifeguard stands which alert of the potential rip current danger.

Of course, we are also in Hurricane Season and time is running out on getting ready for the most active part of the season which typically begins in August. Now is the time to make sure you and your family are ready this hurricane season. Go to ready.gov for information and preparedness checklists.

For daily weather forecasts, watches, warnings and statements, please visit our web site at weather.gov/southflorida. Also, please make sure to visit our Facebook page by clicking on this link.